and practitioners in the field of corporate finance. Verizon fails to identify a single reputable economist who supports a one-stage DCF for companies with above-average short-run growth rates. *See* Verizon Cost Br. at 51-53.

Verizon's assertion that it is "common" for some companies to "grow at rates much greater than that of the GNP for long periods of time" (*id.* at 51) misses the point. The assumption of Dr. Vander Weide's one-stage DCF is not merely that a small subset of his comparison companies, selected in hindsight, can be shown to achieve prolonged above-average growth rates; rather, the implicit assumption of the model is that *all* of the companies in his comparison group, on average, will maintain growth rates approximately *double* the long-run growth rate of the economy—forever. *See, e.g.*, AT&T-WCOM Ex. 10 (Hirshleifer Reb.) at 13-15. Dr. Vander Weide expressly abandoned such a claim on cross-examination. Instead, he retreated to the fallback position, discussed next, that investors *expect* such unsustainable growth rates to persist for the long run. AT&T/WCOM Cost Br. at 44-45 (citing Tr. 3448, 3543).[14]

(2) Dr. Vander Weide's fall-back defense, based on the sustainability of irrational investor expectations, is equally untenable. AT&T/WCOM Cost Br. at 47-50. To accept this claim, the Commission would have to assume that investors (including the sophisticated investment bankers, brokerages and other market movers that advise large investors and control institutional investment funds) cling year after year to an irrational belief in the long-term sustainability of above-average short-term growth projections, unmoved by the disclaimers in the projections themselves, or the periodic and often painful reminders to investors during recessions

[14] Dr. Vander Weide's related claim that above average growth rates are "typically achievable for a period of longer than five years in a rapidly growing industry such as telecommunications" (Verizon Cost Br. at 51) is equally unsupported. Indeed, the recent rash of bankruptcies and retrenchments in the industry (most recently the bankruptcy filing of Global Crossing) make clear that rapid earnings growth in the industry cannot be counted on even in the short run.

and bear markets that there are limits to earnings growth. AT&T/WCOM Cost Br. at 47-48. Verizon cites no evidence to suggest that the average investor remains so persistently deluded.

Dr. Vander Weide's trumped-up comparisons of the one-stage and three-stage DCF models (Verizon Cost Br. at 51-52) are meaningless. Verizon cites Dr. Vander Weide's supposed demonstration that "Mr. Hirshleifer's DCF model produces the illogical result that *higher* risk companies have a *lower* cost of equity than lower-risk companies (Verizon Cost Br. 51-52), but makes no mention of the elementary errors in Dr. Vander Weide's analysis. AT&T/WCOM Cost Br. at 49 (citing AT&T-WCOM Ex. 17 (Hirshleifer Surreb.) at 75-83). Likewise, Verizon seizes upon the regressions in Verizon Ex. 192 as proof that that the growth rates used in the one-stage DCF model correlate better with the price/earnings ratios of individual companies in the DCF sample than do the growth rates used in Mr. Hirshleifer's three-stage DCF (Verizon Cost Br. at 52), but makes no mention of the specification errors that make their regression results meaningless.[15]

It is telling that Dr. Vander Weide has never published his analysis in a peer-reviewed economic journal. *See* http://faculty.fuqua.duke.edu/%7Ejv1/bio/vita.htm (listing Dr. Vander Weide's publications). Indeed, AT&T/WCOM are unaware of any recent scholarly research, by any economist, supporting his views on the one-stage DCF. To the contrary, the overwhelming consensus of expert opinion favors the multi-stage DCF.[16]

---

[15] AT&T/WCOM Cost Br. at 49-50; Objections of AT&T and WorldCom to Verizon Response to Staff Record Request for Literature Comparing the Accuracy of One-Stage vs. Multi-Stage DCF Models (Dec. 18, 2001) at 4-17.

[16] *See* AT&T-WCOM Ex. 5 (Hirshleifer Dir.) at 12-17 (discussing scholarly literature supporting multi-stage DCF model over one-stage model). Other literature not cited therein include Ibbotson Associates, *Stock, Bonds, Bills and Inflation, 2001 Yearbook*, at 49-50; Shannon P. Pratt, *Cost of Capital: Estimation and Applications* at 116-117 (1998); and Bradford Cornell, "Alternate Approaches Available for DCF Method," *Natural Gas* at 13-17 (November 1994).

2. The Relevant Risk Of Verizon's UNE Business Is Low.

Verizon's initial brief also confirms that the relevant risk of Verizon's UNE business, another major determinant of the cost of capital, is low. AT&T/WCOM Cost Br. at 80-88; *accord, Bell Atlantic-Delaware, Inc. v. McMahon*, 80 F.Supp.2d 218, 240-41 (D. Del. 2000) (rejecting essentially the same claims by Bell Atlantic in Delaware). Verizon offers no serious challenge to the evidence that the business risk it *actually* faces as the wholesale supplier of UNEs will remain low for the foreseeable future. With the collapse of the CLEC sector, and the rosy financial projections offered by Verizon's own executives, Verizon's self-portrait of a beleaguered competitor no longer passes even the laugh test.[17]

Verizon's proposal to substitute the legal fiction of an intensely competitive market for the requisite factual inquiry is equally indefensible. Verizon asserts that consistency with the premises of TELRIC requires the Commission to *assume* that effective competition for wholesale services will exist during the next few years, *regardless of* whether Verizon *in fact* is likely to face effective competition for the business of supplying UNEs at wholesale. Verizon Cost Br. at 44-47. Verizon makes no attempt to reconcile this position with the relevant language of *Local Competition Order* ¶ 702, however. Paragraph 702 requires a detailed factual inquiry ("demonstrating with specificity") into the competition that Verizon "faces"—not the hypothetical level of risk that Verizon *would* face *if* (contrary to fact) the local market were fully competitive or contestable. AT&T/WCOM Cost Br. at 51-54. The factual inquiry mandated by the FCC, and the FCC-imposed allocation of the burden of proof for resolving any disputed

[17] AT&T/WCOM Cost Br. 83-85; AT&T/WCOM Ex. 20 (Murray Surreb.) 15-17; AT&T/WCOM Ex. 17 (Hirshleifer Surreb. 25-26.

facts, would be pointless if the FCC had meant for state commissions simply to *presume* the existence of intense competition.[18]

There is no legal inconsistency between the requirements of Paragraph 702 and the other elements of the TELRIC standard set forth in the *Local Competition Order*. It is commonplace, if not mandatory, for rate regulators to base rates on the *costs* that would prevail in an effectively competitive (or contestable) market, while limiting *returns* to the levels needed to compensate the regulated firm for the risk it actually faces.[19] The TELRIC-like cost standard adopted by the Interstate Commerce Commission in 1985 for regulating rates paid by captive rail shippers, the stand-alone cost ("SAC") test,[20] provides clear precedent in this regard: as imple-

---

[18] *See* AT&T-WCOM Ex. 17 (Hirshleifer Reb.) at 5; 12 Tr. 3479 (Vander Weide) (conceding that, under his interpretation of ¶ 702, the parties and the Commission are "wasting our time" by "litigating over what competition Verizon actually faces"); AT&T Ex. 110 at 355-57 (Vander Weide cross-examination in New Jersey UNE proceeding).

[19] *See* AT&T/WCOM Cost Br. at 77-78 (quoting *Bluefield Water Works Improvement Co. v. PSC*, 262 U.S. 679, 692-93 (1923), and *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944)). *Accord, Bell Atlantic-Delaware, Inc. v. McMahon*, 80 F.Supp.2d 218, 240-241 (D.Del. 2000); *id.* at 240 n. 19.

[20] *See* Coal Rate Guidelines—*Nationwide*, 1 I.C.C.2d 520, 534-47 (1985), *aff'd sub nom. Consolidated Rail Corp. v. United States*, 812 F.2d 1444 (3d Cir. 1987); *Potomac Electric Power Co. v. ICC*, 744 F.2d 185, 193-94 (D.C. Cir. 1984).

mented by the ICC, the SAC test combines the forward-looking cost assumptions of perfect contestability with a cost of capital based on the existing risks of the incumbent carriers.[21]

Moreover, to base UNE costs and prices on the counterfactual assumption that Verizon faces intense competition in the business of supplying UNEs would violate Section 252(d)(1)(A)(ii) of the 1996 Act, which requires that UNE prices be nondiscriminatory as well as cost-based. Nondiscrimination dictates that the prices paid by CLECs to Verizon are the same as the implicit prices (i.e., economic costs) that Verizon incurs in supplying the same elements to itself for use in providing Verizon-branded retail service. The capital costs that Verizon incurs when it engages in such self-provisioning reflect that risks that it actually anticipates, not the higher capital costs of a riskier, more competitive business.

Furthermore, the *Local Competition Order* makes clear that one of the main purposes of TELRIC pricing is to enable new entrants to share in the incumbents' scale and scope economies. One of those economies is the reduced cost of capital enjoyed by Verizon as a

---

[21] In determining the cost of capital component of stand-alone cost, the Surface Transportation Board, like its predecessor, the Interstate Commerce Commission, uses the agency's annual cost of capital determination for the industry, not the cost of capital of hypothetical carrier in a highly competitive or contestable market. *See* STB Docket No. 42022, *FMC Wyoming Corp. v. Union Pacific R. Co.* (decision served May 12, 2000), slip op. at 178 ("As in prior SAC cases, we find it appropriate to assume that the rate of return that the ORR [hypothetical stand-alone railroad] would earn is the railroad industry cost of capital"); *Arizona Public Service Co. v. Atchison, T. & S.F. Ry. Co.*, 2 S.T.B. 367, 438 (1997) (same); *Bituminous Coal—Hiawatha, UT, to Moapa, NV*, 10 I.C.C.2d 259, 315 n. 76 (1994) (same). The "railroad industry cost of capital" determined by the STB and ICC is based on a comparison group consisting of the publicly traded corporate parents of major Class I railroads. *See* Ex Parte No. 558 (Sub-No. 3), *Railroad Cost of Capital—1999* (decided June 6, 2000), slip op. at 1-2 & footnote 1 (noting that STB's annual cost of capital determinations for the railroad industry rely on a DCF comparison group composed of actual Class I carriers controlled by selected major railroad holding companies); Ex Parte No. 552 (Sub-No. 4), *Railroad Revenue Adequacy – 1999 Determination* (served July 19, 2000), (finding that the 1999 railroad industry cost of capital was 10.8%); .

result of its near-monopoly scale and scope in Virginia local markets. As the FCC has explained:

> The incumbent LECs have economies of density, connectivity, and scale; traditionally, these have been viewed as creating a natural monopoly. As we pointed out in our NPRM, the local competition provisions of the Act require that these economies be shared with entrants. We believe that they should be shared in a way that permits the incumbent LECs to maintain operating efficiency to further fair competition, and to enable the entrants to share the economic benefits of that efficiency in the form of cost-based prices.

Local Competition Order ¶ 11 (footnote omitted).

Against these authorities, Verizon cites two sentences of oral testimony by AT&T/WCOM witness Terry Murray "conceding" that the "forward-looking cost of capital" used in UNE studies must assume a "fully competitive market." Verizon Cost Br. at 44 (quoting Tr. 3202 (Murray)).[22] Verizon takes Ms. Murray's testimony grossly out of context. Her actual testimony was that, as a matter of "theory," the competitive assumptions of cost of capital analysis should be "consistent" with the other assumptions of the cost model. *Id.* at 3202. Ms. Murray emphasized, however, that the actual estimation of a cost of capital in a hypothetical competitive market "is a tricky matter"; that she had not thought "through how one would" make the necessary "theoretical adjustment" to estimate the cost of capital in such a market, and that "Mr. Hirshleifer is the witness who will deal with this." *Id.* at 3200-01. In all likelihood, she explained, the outcome need not be a "radically high cost of capital." *Id.* at 3404-06.

---

[22] Verizon also asserts that the "instantaneous replacement" assumption of the TELRIC standard implies a very high cost of capital "because the entire network could potentially, at any time, have to be replaced." Verizon Cost Br. at 47 n. 43. As explained above and in AT&T/WCOM's initial brief, this is a caricature of the TELRIC standard. The "instantaneous replacement" standard is in fact a shorthand term for the continual fluctuation of the *market values* of existing assets in response to technological innovation and other competitive trends. That responsiveness need not (and in this case does not) translate into high risks.

Mr. Hirshleifer expanded on these points. First, he noted that the use of a hypothetical-competitive-market cost of capital is foreclosed by Paragraph 702 of the *Local Competition Order*. Tr. 3622 (Hirshleifer). Second, he explained that estimating the cost of capital in the perfectly competitive or contestable market modeled by the TELRIC standard would be difficult, if not impossible, for no such markets actually exist; hence, there are no observations for the analyst to use as data points. Tr. 3627 (Hirshleifer).[23] Third, he explained that the cost of capital in such a hypothetical market would, in principle, be *lower* than Verizon's actual cost of capital, because the assumption that all technology is current and no investment becomes sunk or stranded eliminates two of the largest risks faced by real firms. *Id.* at 3625-26; *accord*, AT&T/WCOM Cost Br. at 80 n. 71 (citing legal and economic precedent). Verizon's brief completely ignores the first two points, and its response to the third is incoherent.[24]

---

[23] Dr. Vander Weide clearly recognized the existence of this measurement problem. When asked to specify the level of competition dictated by consistency with the TELRIC standard, he waffled. Tr. 3556-57. It could be anywhere on the continuum from atomistic competition to a duopoly, he said. *Id.* at 3554-56.

[24] Specifically, Verizon argues that the assumption of perfect contestability is inappropriate because entry into local exchange markets in reality requires "large sunk investments," and thus is "not perfectly contestable." Verizon Cost Br. at 56 n. 52. Verizon jumbles two distinct and mutually inconsistent assumptions.

While entry into actual local markets certainly does require "large sunk investments" and therefore is "not perfectly contestable," the TELRIC standard does not seek to replicate the performance of such markets. Rather, the TELRIC standard seeks to "simulate the conditions in a competitive marketplace," *Local Competition Order* ¶ 679. A key characteristic of such a marketplace is its contestability—*i.e.*, the absence of sunk investment, which creates barriers to entry by driving a wedge between the incremental cost of the incumbent and the incremental cost of subsequent potential entrants. *Id.*, ¶ 10. If one wishes to determine a cost of capital in the highly competitive or contestable market that the TELRIC model emulates, consistency requires one to accept as well the market conditions required to achieve this hypothetical competitive state, including the absence of significant sunk or immobile investment or the competitive risks that such investment creates.

Verizon also neglects to mention its own representations in several recent proceedings that the *Local Competition Order* requires that UNE prices include a cost of capital that reflects the incumbent carriers' existing competitive risks—or the risks of a "stable, low-risk monopoly system." These representations, which are patently at odds with the views that Verizon imputes to Ms. Murray, appear in Verizon's briefs to the Supreme Court last year on review of the *Local Competition Order*; a recent report by National Economic Research Associates ("NERA"), the consulting firm that employs Verizon witnesses William Taylor and Timothy Tardiff; and the testimony of Verizon witness Dr. William Taylor in the UNE proceeding in Virginia in 1997 that forward-looking pricing methodologies do *not* require a departure from the traditional approach of determining the cost of capital in light of the *actual* competitive risks of the regulated enterprise. *See* AT&T/WCOM Cost Br. at 76-79 (discussing prior statements by Verizon and its witnesses).

In any event, the views of AT&T/WCOM, Verizon, and their witnesses on whether Paragraph 702 sets forth the proper cost-of-capital standard for UNE litigation is ultimately beside the point. Unless rescinded by the Commission in a notice-and-comment rulemaking, or overturned by a reviewing court, Paragraph 702 provides the controlling legal standard in this adjudication. In this adjudication, the FCC acts in the place of the Virginia

---

Conversely, if one seeks to determine a cost of capital that reflects consistently the need for "large sunk investments," one must also accept *all* of the implications of that assumption—including the reality that the first firm to make the necessary sunk investment (in this case, Verizon) gains an enormous first-mover advantage. By virtue of its billions of dollars of sunk investment in its ubiquitous local network in Virginia and neighboring states, Verizon has rendered entry by other potential competitors less likely to be profitable, and thus less likely to occur. This barrier to entry reduces Verizon's risk and cost of capital. The assumption that local telephony in Virginia requires "large sunk investments" thus leads directly back to the premise of Mr. Hirshleifer's cost of capital study: *i.e.*, that Verizon is an entrenched incumbent that faces minimal facilities-based competition for the foreseeable future.

Commission, and state commissions are required to follow the FCC's rules in arbitrating disputes over proposed interconnection agreements. 47 C.F.R. § 51.505(e)(1). *See also* 47 U.S.C. § 252(e)(5). Moreover, the TELRIC rules were adopted in a rulemaking after notice and comment, and cannot be revised or abandoned "until such time as [the FCC] alter[s] them through another rulemaking." *Southwestern Bell Tel. Co. v.* FCC, 28 F.3d 165, 169 (D.C. Cir. 1994). Hence, the Commission is not free to change those rules here.

3. The Telecom Holding Companies Used By Mr. Hirshleifer Are A Better DCF Comparison Group Than The Diversified Industrial Companies Used By Dr. Vander Weide.

Verizon's initial brief offers no principled basis for departing from the long chain of FCC, state commission and court precedent rejecting Dr. Vander Weide's approach of using diversified industrial companies as a DCF comparison group for a supplier of UNEs at wholesale. *Cf.* AT&T/WCOM Cost Br. at 85-90; Verizon Cost Br. at 49-50. Verizon relies primarily on the syllogism that (1) local telephony is "competitive" (or, more precisely, must be assumed to be competitive), and (2) most industrial companies are also competitive. Ergo, Verizon concludes, the average company in the S&P Industrials is as risky as the average local telephone company. Neither premise holds.

The first is unfounded for the reasons stated in the previous subsection. In any event, the anticipated competitive and regulatory risks (if any) of local telephony have been widely reported, and thus are presumably reflected in the stock prices of publicly traded telephone holding companies. AT&T/WCOM Cost Br. at 87-88. Verizon offers no response to this point, other than the nonsensical claim that diversification into higher-risk lines of business such as wireless, internet and foreign telephony somehow *reduces* the overall risks of a local telephone holding company. *Cf. id.* at 82 & n. 73; Verizon Cost Br. at 50.

The second premise is grossly simplistic: the degree of competitive risk is a continuum, not a binary, all-or-nothing condition. The record provides no evidence that Verizon's local business falls at the midpoint of the continuum of companies in the S&P Industrials. AT&T/WCOM Cost Br. at 88. Verizon's Cost Brief ignores this issue as well.

Finally, Dr. Vander Weide's assertion that the universe of publicly traded local telephone holding companies is too small to provide a statistically reliable sample (Verizon Cost Br. at 50) is unsupported. Dr. Vander Weide performed no tests of statistical significance to support this claim. Moreover, as Mr. Hirshleifer noted, potential dispersion is obviously small because the DCF equity costs of the companies in Mr. Hirshleifer's DCF comparison group all fell within a very narrow range, 10.24 percent to 10.4 percent. Significantly, Dr. Vander Weide has used equally small samples in his own analyses. AT&T/WCOM Cost Br. at 90. Verizon offers no response to any of these points.

4. Dr. Vander Weide's Criticisms Of AT&T's CAPM Approach Are Without Merit.

Verizon's criticisms of Mr. Hirshleifer's alternative CAPM analysis of equity costs have an air of unreality. Verizon Cost Br. at 53-54. First, Verizon contends that Mr. Hirshleifer improperly based his estimates of the risk premium on geometric mean returns rather than arithmetic returns. In fact, there is no agreement among leading scholars and practitioners over which averaging method is preferable for estimating historical risk premiums. AT&T-WCOM Ex. 5 (Hirshleifer Dir.) at 29-30. Mr. Hirshleifer's risk premiums are based on a range of estimates using *both* approaches. *Id.*, Attachment JH-8; AT&T-WCOM Ex. 17 (Hirshleifer Surreb.) at 49-50. Verizon's brief makes no mention of these facts.

Second, Verizon asserts that Mr. Hirshleifer erred in "giving significant weight to" historical data "going back to 1802," rather than limiting his data set to a starting date of 1926 or 1945. Verizon Cost Br. at 53-54. But there is also no consensus among economists over

the most appropriate historical period for analysis, or even whether historical equity risk premiums are superior to forward-looking risk premiums. AT&T-WCOM Ex. 5 (Hirshleifer Dir.) at 29-32 (citing authorities). In the absence of a scholarly consensus, Mr. Hirshleifer used four different historical data sets, only one of which included pre-1926 data (1802-1999, 1926-1999, 1951-1999, and 1971-1999). The values that he recommended are above the average premiums observed in half of the periods, including the full sample, and are also conservative in comparison to DCF risk premium estimates and the recent estimates of other practitioners and scholars. *Id.* at 32 and Attachment JH-8; AT&T/WCOM Ex. 17 (Hirshleifer Surreb.) at 42-53. Verizon offers no response to these points, or the consensus of recent scholarship that the most appropriate risk premiums are lower, not higher, than the estimates derived by Mr. Hirshleifer.

Third, Verizon contends that Mr. Hirshleifer "failed to make any adjustment for the tendency of the CAPM to underestimate the cost of equity for companies whose betas . . . are less than 1.0." Verizon Cost Br. 54. Mr. Hirshleifer explained in his surrebuttal testimony, however, that there is no consensus among the finance profession over the appropriate method of adjustment, or whether any adjustment should be made at all, and many reputable data sources make no adjustments to their beta estimates. AT&T-WCOM Ex. 17 (Hirshleifer Surreb.) at 39-40. Verizon's brief is silent about these facts as well.

5. Mr. Hirshleifer Has Specified The Appropriate Capital Structure.

Verizon criticizes the debt/equity ratio assumed by Mr. Hirshleifer on the ground that investors and analysts rely on "market value" capital structures, not "book value" capital structures. Verizon Cost Br. at 48-49. As Mr. Hirshleifer emphasized, however, the appropriate market-weighted capital structure is the forward-looking market structure of a firm *in the relevant line of business*. AT&T/WCOM Ex. 10 (Hirshleifer Reb.) at 83. Because the capital structure of enterprises devoted to the wholesale supply of unbundled network elements is not

directly observable, Mr. Hirshleifer appropriately used the midpoint of the book-weighted capital structure and market-weighted capital structure of large local telephone holding companies as a surrogate for the market-weighted capital structure of a firm devoted solely to the wholesale supply of UNEs. AT&T-WCOM Ex. 5 (Hirshleifer Dir.) at 34-42; AT&T-WCOM Ex. 10 (Hirshleifer Reb.) at 34-35; AT&T-WCOM Ex. 17 (Hirshleifer Surreb.) at 54-55, 58-59.

Verizon's rejoinder is essentially that this approach overestimates the appropriate amount of debt because consistency with the TELRIC methodology requires the use of a capital structure appropriate for a highly risky firm—*i.e.*, a very low debt/equity ratio. Verizon Cost Br. 48. This argument is merely a variant of Verizon's claim, discussed above, that the TELRIC methodology requires the legal fiction that Verizon's business of supplying UNEs is very risky.

6. Cost Of Capital Analyses By Third Party Analysts Provide Further Support For Mr. Hirshleifer's Cost Of Capital Estimate.

As AT&T and WorldCom noted in their initial brief, the weighted average cost of capital proposed by Mr. Hirshleifer is consistent with the recent estimates of independent securities analysts, the recent estimates of securities firms and investment banks retained by Verizon's predecessor companies (Bell Atlantic, NYNEX and GTE) in their merger prospectuses, and by the three companies themselves in their role as sponsors of those prospectuses. These estimates converge in the range of a weighted average cost of capital of 8 to 11 percent or so for the overall business of local telephony. These estimates are consistent with an even lower cost of capital for the wholesale business of supplying UNEs. AT&T/WCOM Cost Br. at 92-94; AT&T-WCOM Ex. 5 (Hirshleifer Dir.) at 43-47; AT&T-WCOM Ex. 17 (Hirshleifer Surreb.) at 67-68, 73-74.

Verizon offers three rejoinders: (1) that the third-party cost of capital estimates were used to evaluate the fairness of stock exchange ratios, not to estimate the forward-looking cost of capital; (2) that actual pre-merger stock prices reveal that the average investor imputes a higher cost of capital (i.e., discount rate) to the merger parties than do the investment analysts;

and (3) that the cost of capital estimates sponsored in securities filings always include "cautionary notes." Verizon Cost Br. at 52-53. None of these three claims withstands scrutiny. Indeed, similar arguments by Verizon and Dr. Vander Weide were considered and rejected by the court on review of the 1997 UNE case in Delaware. *Bell Atlantic-Delaware, Inc. v. McMahon*, 80 F.2d 218, 241 (D. Del. 2000).

First, the distinction drawn by Verizon between the parties' cost of capital estimates here and the cost of capital estimates set forth in securities filings is a distinction without a difference. In both instances, the analyst is estimating the rate at which investors discount future expected income streams from the local telephone business in light of their anticipated certainty or uncertainty of realization. AT&T-WCOM Ex. 17 (Hirshleifer Surreb.) at 60-65.

Second, Verizon's assumption that disparities between the stock price valuations estimated by investment bankers and the actual stock prices of the subject companies is proof that investors assume a different cost of capital than do the investment bankers is a non sequitur. It is equally if not more likely that the disparities stem from investors' differing expectations about the merging parties' potential synergies (and thus the future earnings prospects of the merged firm). *Id.* at 65-66. Moreover, Verizon's cost of capital witness, Dr. Vander Weide, himself has offered valuation analyses by investment banks as evidence of the cost of capital demanded by investors in the telephone sector. *Id.* at 67-68.

Third, Verizon's attempt to seize upon the boilerplate exculpatory language of securities prospectuses as grounds for ignoring the independent cost of capital analyses cited by Mr. Hirshleifer is frivolous. As noted by Mr. Hirshleifer, a former due diligence officer for a broker-dealer, investment banks routinely include such boilerplate in an attempt to minimize their exposure to securities fraud litigation. The inclusion of such boilerplate is hardly evidence that the authors of the reports deliberately include assumptions they believe to be wrong. *Id.* at

61-62, 68. Moreover, exculpatory language of this kind is generally absent from reports by investment analysts, which have also provided recent cost of capital estimates consistent with Mr. Hirshleifer's. *Id.* at 68-69.

7. AT&T's Internal Estimate Of The Cost Of Capital Of Its Own Investments In Local Telephony Is Irrelevant.

Finally, Verizon cites an internal AT&T cost of capital estimate of **[BEGIN AT&T PROPRIETARY]** **[END AT&T PROPRIETARY]** as an admission that Mr. Hirshleifer's 9.58 percent cost of capital estimate is too low. Verizon compares apples and oranges. The risks of AT&T's local business are far higher than the risks of Verizon's wholesale UNE business, and one should expect AT&T's internal cost of capital to exceed Verizon's. Verizon has both a ubiquitous network and a near-monopoly market share in virtually all of its local markets; AT&T is a fringe player with only a tiny toehold in most markets. *See* Response of AT&T to Staff Record Requests Concerning AT&T Internal Cost of Capital (filed Dec. 12, 2001). Moreover, Verizon's "existing infrastructure enables it to serve new customers at a much lower incremental cost than a facilities-based entrant that must install its own switches, trunking and loops to serve its customers." *Local Competition Order* ¶ 10. The rout of the CLEC sector by Verizon and its peers during the past two years underscores the disparity between the business prospects, risks and capital costs of the two kinds of local telephone businesses.

Far more to the point are the internal cost of capital estimates developed for local exchange carriers by investment analysts, and by one of Verizon's peers, Ameritech, for its own investment decisions. *Those* estimates support a cost of capital in the range of 10 percent or less. AT&T-WCOM Ex. 17 (Hirshleifer Surreb.) at 73-74.

Verizon's only response to these points is its all-purpose rejoinder, discussed above, that TELRIC models require the legal fiction that Verizon's risks and capital costs are the same as those of a firm in a highly competitive market. Verizon Cost Br. 55 n. 52.

D. Depreciation Lives

The parties' initial briefs confirm both the reasonableness of the forward-looking depreciation lives prescribed by the FCC and the Virginia State Corporation Commission, and the unreasonableness of the truncated GAAP lives proposed by Verizon. AT&T/WCOM Cost Br. at 94-106; Verizon Cost Br. at 34-42.

1. Verizon Has Failed To Establish That Recent Changes In Technology And Competition Warrant Lives Shorter Than The FCC-Prescribed Lives.

Verizon's perennial claim that FCC-prescribed lives are "backward-looking" because they ignore the current and expected rate of innovation and level of competition in the local telephone industry remains unsupported. *Cf.* Verizon Cost Br. 37-40. Those lives have survived repeated and thorough scrutiny by the FCC since 1994, and have been accepted by the Virginia SCC and two dozen other state commissions in recent years. AT&T/WCOM Cost Br. at 95-96, 103-05. Moreover, the growing levels of depreciation reserves throughout the local telephone industry provide empirical confirmation that the FCC lives are forward-looking. *Id.* at 96.[25] Verizon's assertion that the FCC-prescribed lives fail to reflect the supposed recent increase in the threat of facilities-based entry, bypass and technological change (Verizon Cost Br. at 35-36, 39) is flatly untrue: these factors are explicitly considered in every three-way depreciation proceeding, and Verizon has offered no evidence that competitive trends have shortened its asset lives in Virginia since the last such prescription proceeding there. AT&T/WCOM Cost Br. at 103; Tr. 3353-62 (Lee) (explaining how FCC prescription proceedings have accounted for recent trends in competition and technological change). Moreover, if the 1996 Act has had any effect on economic lives, the effect has been to create *alternatives* to

[25] Verizon's attempt to attribute the growth in depreciation reserves to other causes is unsupported by the record. *Cf.* Verizon Cost Br. at 39; AT&T/WCOM Ex. 3 (Lee Dir.) at 5-8; AT&T/WCOM Ex. 9 (Lee Reb.) at 12-13; AT&T/WCOM Ex. 22 (Lee Surreb.) at 4-10.

facilities-based bypass—i.e., the purchase of UNEs or the resale of wholesale services—that tend to *lengthen* the economic lives of ILEC assets. *Id.* at 3353-62, 3369-74 (Lee); Tr. 3401-04 (Murray). Likewise, the advent of DSL exemplifies the ability of innovation to lengthen the lives of existing assets. *Id.*

2. The FCC-Prescribed Lives Are Consistent With The Theoretical Premises Of TELRIC.

Verizon's further claim, that the theoretical premises of TELRIC imply an extraordinarily rapid turnover of assets, and therefore require the Commission to assume that depreciation lives will be very short, is merely a variant of the legal fiction that Verizon proposes for the cost of capital. As with the definition of a TELRIC-consistent cost of capital, Verizon engages in caricature, not analysis. *Cf.* Verizon Cost Br. at 39-40; AT&T/WCOM Cost Br. at 105-06.

As explained in AT&T/WorldCom's initial brief, the assumption of "instantaneous" entry and asset reconfiguration does not imply instantaneous entry or network reconfiguration will literally occur. Rather, the assumption is a shorthand for the Commission's goal of replicating the *performance* of markets in which prices are disciplined by the *threat* of such entry—i.e., markets that are effectively competitive or contestable. *See* AT&T/WCOM Cost Br. at 23-25. In such markets, the advent of newer, better technology will promptly induce a downward revaluation of existing assets that embody embedded technology to bring their prices in line with their reduced economic value going forward, *even if the embedded assets remain in service*. *See id.*

The frequent (or even continual) revaluation of existing assets in competitive markets, however, does not necessarily imply short depreciation lives or rapid declines in asset values. Verizon Cost Br. at 39-40, 105-06. Even in atomistically competitive markets, firms may use assets with long depreciation lives if the technology is sufficiently mature (farming is a

good example). What controls the life of the assets is not the intensity of the competition or the frequency with which a regulator studies changes in those lives, but the pace of the underlying technological change itself. Because the FCC-prescribed depreciation lives for Verizon already reflect the expected rate of technological change, the competitive assumptions of the TELRIC paradigm require no alteration of those lives. Tr. 3399 (Lee); Tr. 3405-09 (Murray); *see also* Tr. 3393-94 (comment of Mr. Stockdale).

3. GAAP Financial Accounting Lives Are Not Economic Lives.

Verizon's welter of arguments and assertions in support of GAAP financial lives never overcomes the Commission's principal and longstanding objection to such lives: financial accounting lives continue to be biased towards the low (shorter) side because they continue to be driven by corporate objectives, including the objective of protecting shareholders, and by the GAAP principle of conservatism, which encourages the accountant to err on the side of over-stating costs for financial reporting when there is uncertainty about their precise level.[26] Despite the labors of Verizon witness Lacey to show that conservatism is no longer accepted as a GAAP principle, the record makes clear that a bias toward conservatism remains deeply engrained in the accounting profession. AT&T-WCOM Cost Br. at 99-101.

Verizon's claim that telephone companies have no incentive to understate depreciation lives because those lives are also used for financial reporting (Verizon Cost Br. at 41) defies logic. Although the adoption of longer depreciation lives may increase a company's

---

[26] AT&T-WCOM Cost Br. at 97-101; *Prescription Simplification, Report and Order*, FCC 93-452, released October 20, 1993, 46; *Federal-State Joint Board on Universal Service and Forward-Looking Mechanism for High Cost Support for Non-Rural LECs*, Tenth Report and Order, 14 FCC Rcd. 20156 (1999), ¶ 429 (emphasis added; footnote omitted); *accord, 1998 Biennial Regulatory Review—Review of Depreciation Requirements for Incumbent Local Exchange Carriers*, CC Docket No. 98-137 (rel. Dec. 30, 1999) at ¶ 48; *Shalala v. Guernsey Memorial Hospital*, 115 S.Ct. 1232, 1239 (1995).

reported earnings (at least in the short run), this accounting change does not increase a company's *actual* earnings or cash flows by a penny. In contrast, adoption of shorter financial lives *can* increase a company's *actual* earnings: if regulatory commissions thereby acquiesce in higher UNE prices, the carrier gains an increased barrier to competitive entry by CLECs, and therefore an increased ability to maintain supranormal returns. *See* Tr. 3339 (Lee); *see also* Tr. 3343-44 (colloquy between Mr. Kwiatkowski and Prof. Lacey).

Finally, Verizon's suggestion that the Commission can rely on GAAP lives to be "inherently reliable and unbiased" because the FASB, the "premier" U.S. accounting standard-setting body, has decreed that accounting information must possess "relevance" and "reliability," is akin to the proposition that police forces can safely be abolished because the Congress and state legislatures, the "premier" lawmaking bodies in the United States, have decreed crime to be illegal. The pronouncements of FASB provide no solace to the investors and employees who lost billions of dollars in equity after the supposedly FASB-compliant account books of companies like Enron turned out to be cooked. For analogous reasons, the Commission's acceptance of Verizon's invitation to accept its GAAP depreciation lives on face value would be an abdication of the FCC's regulatory responsibilities.

4. The Financial Lives Of Other Telecommunications Carriers Are Unsuitable Proxies For Verizon's Economic Lives.

The foregoing analysis also disposes of Verizon's attempt to justify its proposed depreciation lives by invoking as "benchmarks" the lives used by firms such as AT&T, WorldCom, and cable TV carriers in *their* financial reports to shareholders. Verizon Cost Br. at 41-42. The depreciation lives used in the financial reports of these companies, like the financial lives of Verizon, are GAAP lives, and thus subject to a conservative bias as well. They may effectively protect investors, but they are ill designed to protect ratepayers. AT&T/WCOM Cost Br. at 101. In any event, the FCC has specifically found that "the depreciation practices of IXCs and

incumbent LECs are not directly comparable because they use different types of switches and cables." *1998 Biennial Regulatory Review*, *supra*, at ¶ 18 (footnotes omitted).[27]

E. Expense Factors

1. Expenses Used In The Synthesis Model

As explained in AT&T's initial brief, the Synthesis Model calculates expenses using the methodology set forth in the FCC's version of the Model, along with certain modifications. *See* AT&T/WCOM Ex. 1 (Pitkin Dir.) at 12-17. Verizon's complaints concerning this approach lack substance.

a. Corporate Overhead Cost Factor

Verizon criticizes the 8% factor used by AT&T and WorldCom to estimate corporate overhead expenses on the grounds that the factor was derived from analysis of the overhead costs of major RBOCs instead of from analysis of Verizon-specific data. Verizon Cost Br. at 171. The short answer to this argument is that Verizon uses an almost identical corporate overhead figure in its own cost study. AT&T/WCOM Ex. 15 (Baranowski Surreb.) at 11-12.

---

[27] Verizon also cites a depreciation study on behalf of Puerto Rico Telephone Company, a carrier subsequently acquired by Verizon, as an admission by AT&T/WorldCom depreciation witness Richard Lee that lives shorter than those proposed by him here are appropriate. Verizon Cost Br. at 42 n. 34. Mr. Lee made clear on cross-examination, however, that his firm merely provided technical assistance for the carrier's study, and did not provide the life recommendations themselves. Tr. 3274. In any event, Verizon has made no showing that the depreciation lives appropriate for Verizon in Virginia are as short as those appropriate for the Puerto Rico Telephone Company. "Perhaps in no other way does PRTC differ more from mainland telephone companies than in its physical environment." Verizon Ex. 130 (PRTC depreciation study) at p. 3-9. "[S]evere extremes of heat, humidity and wind . . . are a continuous threat to PRTC's outside plant," and much of the company's budget for outside plant is devoted to rehabilitation. *Id.* Moreover, PRTC, during the period anticipated by its study, was in the throes of replacing large quantities of analog assets. *Id.* at 3-6 and 15-1.

Verizon also does not contest that, for a number of other reasons, the 8% factor is extremely conservative. AT&T/WCOM Cost Br. at 107.

b. Network Operations Expenses

Verizon complains that the Synthesis Model's calculation of network operations expenses is improper because AT&T and WorldCom utilize forecasted Virginia-specific 2002 expense and demand data when some other Synthesis Model expense factors are based on 1998 data. Verizon Cost Br. at 171. Verizon is unable to point to any authority criticizing or prohibiting use of forecasted data in the network operations context, and the *Local Competition Order* clearly contemplates the use of projections as appropriate.[28] Nor does Verizon offer any explanation, much less substantiation, for the allegation that use of the forecasted data substantially exaggerates demand growth. *See id.* Finally, Verizon's contention that the Synthesis Model fails to assign $13 million of the $106 million in network operations expenses to individual UNE elements is simply wrong. *See* Tr. 5545 (Pitkin); VA_C And P Tel Co Of VA_VA Surrebuttal Filin_DZ.xls at the "PerLine Allocation" worksheet cell AX 184 as filed in the workpapers to AT&T/WCOM Ex. 14 (Pitkin Surreb.).

c. Marketing

Verizon argues that the Synthesis Model fails to include certain marketing expenses. Verizon Cost Br. at 172. It is undisputed, however, that the vast majority of these costs are associated with retail marketing. *Compare id. with* AT&T/WCOM Cost Br. at 109. Although Verizon claims that some small portion of the costs are UNE-related, the cited testimony of Mr. Pitkin provides no support for this contention. In fact, it is directly to the contrary:

---

[28] *Id.* ¶ 682 (unit costs of capacity should reflect a "reasonable projection of the actual total usage of the element"); *id.* ¶ 683 ("Forward-looking cost methodologies, like TELRIC, are intended to consider the costs that a carrier would incur *in the future*") (emphasis added).

"My testimony is I'm not aware of any marketing activities that are associated with the provision of UNE services." Tr. 3863 (Pitkin). *See also Universal Service Tenth Order* ¶ 407 (in the context of universal service, a retail service offering, eliminating 94% of marketing expenses). Verizon has identified no basis for including any marketing expenses.

d. General Support Expenses, Maintenance Expenses And Plant Specific Expenses

Verizon does not dispute that a forward-looking network would have vastly lower expenses as a result of the use of all new equipment and a technology mix that substantially increased use of fiber. Nonetheless, Verizon contends that AT&T and WorldCom acted improperly by using expense to investment ratios when calculating general support costs, annual expenses to maintain outside plant facilities or plant specific expenses. Verizon Cost Brief at 168-71. These arguments are meritless. The use of such ratios has been followed by the FCC, other TELRIC models and Verizon itself. AT&T/WCOM Ex. 14 (Pitkin Surreb.) at 62, 70-71. Equally unfounded is Verizon's further assertion that the estimated amounts of forward looking investment in these areas are "unreasonably low," "significantly understated" and "steeply discounted. *See* pp. 34-35 *supra*. So too is the claim that a FLC factor therefore must be used to compensate for these or other supposed errors. *See also* p. 38-40.

Verizon also complains that AT&T/WorldCom calculated general support expenses in the same way as the FCC's universal service calculation and thus excluded expenses related to special access and toll services in the UNE calculations. Verizon Cost Br. at 172-173. This argument also fails. Regardless of the manner in which the network was sized, it remains undisputed that provision of wholesale services requires far fewer customer service representatives than does provision of retail services and that wholesale services thus generate far fewer general support expenses. *Compare* AT&T Cost Br. at 110 *with* Verizon Cost Br. at 172-173. As a result, AT&T/WorldCom acted conservatively in not excluding an even higher amount of

general support expenses in UNE cost modeling than did the FCC in the USF context. Indeed, Verizon excludes even more general support expenses in its studies than are excluded in the Synthesis Model. AT&T/WCOM Ex. 14 (Pitkin Surreb) at 71.

e. Nationwide And State Specific Data

Finally, Verizon criticizes AT&T/WorldCom's calculation of expenses on the grounds that the Synthesis Model sometimes uses nationwide values. This argument ignores the FCC's conclusion that nationwide values generally are "better predictors of . . . forward-looking costs." *Universal Service Tenth Order* ¶¶ 31, 342, 348, 358, 360, and more accurately reflect the costs that an efficient carrier would incur on a forward-looking basis. Moreover, in many instances, use of nationwide values actually is conservative because Verizon, as a very large ILEC, likely has greater economies of scale than many ILECs included in the nationwide data.

In any event, AT&T/WorldCom did not compute expenses using nationwide values exclusively. To the contrary, AT&T/WorldCom examined each of the nationwide values used as inputs in the universal service modeling and adjusted those values based on Virginia-specific or other data where appropriate. *See* AT&T/WCOM Cost Br. at 111-112.

2. Expenses In Verizon's Models

As explained in the AT&T/WCOM Initial Cost Brief, Verizon based its expense calculations entirely on its 1999 expenses (and without undertaking any analysis to determine whether those expenses are representative). Verizon proposed no adjustments to its 1999 expenses to make them forward-looking, other than removing certain retail-related expenses[29] and reducing the cost of repairing fiber cable by 5%. Verizon simply brought these slightly

[29] Removal of retail-related expenses is *not* a forward-looking adjustment, but rather an adjustment necessary when using company-wide data that include retailing costs as inputs to a model of the costs of providing wholesale UNEs.

adjusted 1999 expenses to 2001 levels though use of a productivity factor derived from productivity gains in Verizon's embedded network and inflation factors. *See* AT&T/WCOM Cost Br. at 106, 112. Verizon spends sixteen pages in its initial brief trying to justify this approach as consistent with TELRIC. It is not.

a. Verizon Productivity And Inflation Factors And FLC Factor

Verizon claims that its expense models are forward-looking because Verizon adjusted its 1999 expenses by a productivity factor "behind the scenes" between the inputs in the VCOST DTU and the calculations in the VCOST PCD. Tr. 3785-87, 3790 (Minion). The productivity factor used, however, reflects labor productivity flowing from a growing volume of business in Verizon's existing network in the normal course of business. (Tr. 3793, 3795, 3795-3796) (Minion); AT&T/WCOM Cost Br. at 114. It is not based on productivity gains that Verizon would expect to enjoy in a forward-looking environment. It does not include any factors that would reduce expenses in a forward-looking network – such as efficiencies caused by the pressures of competition, increased use of IDLC in general and GR-303 in particular, better or increased mechanization of certain processes over time or the lack of need to replace outdated equipment. AT&T/WCOM Cost Br. at 112-114; Tr. 3798-3801 (Minion). As a result, the application of this productivity factor cannot possibly account for expected expense savings in a forward-looking network.

Verizon nonetheless suggests that its expenses are forward looking because it might turn out that a forward-looking network would result in no additional expense reductions. Verizon Cost Brief at 63-65. But Verizon offers nothing to support this proposition, which flies in the face of the Telecommunications Act and the FCC's First Report and Order with regard to forward-looking economic costs. Verizon does state that the equipment and plant in Verizon's current network "generally" is "fairly new," and then concludes from this assertion that "thus

there is no reason to assume in most cases that equipment in the forward-looking network would produce significant productivity gains that have not already been realized by Verizon VA." Verizon Cost Brief at 64. Yet, this assertion is ludicrous, as demonstrated by the admission in Verizon's brief that much of the equipment in its existing network is "over thirty years old" (*id.* at 73) and that even its "fairly new" equipment includes little, if any, GR-303 DLC, the most efficient currently available technology.

In any event, the productivity factor proposed by Verizon is illusory even on its own terms. As Verizon admits (Tr. 3802-03) (Minion), the factor is so small that it is offset by Verizon's proposed labor inflation adjustment. In contrast, during the cost proceedings in New York, Verizon proposed a productivity adjustment of 2% above inflation for network-related expenses and 10% above inflation for non-network related expenses, and Judge Linsider ultimately recommended an adjustment of 3% above inflation for network expenses and 12% above inflation for non-network expenses. Tr. 3804-05 (Minion).

Apparently recognizing the absurdity of these claims, Verizon asserts that its methodology nonetheless is forward looking because, for each asset class, Verizon applies its ACFs to Verizon's future investment. Verizon Cost Br. at 65-66. This argument misses the point. Even with this feature, Verizon's methodology is not forward-looking because the numerator in its ACF consists almost exclusively of Verizon's current embedded expenses and such expenses are not forward-looking expenses.[30] Moreover, because the numerator consists almost exclusively of Verizon's current embedded expenses, it does not accurately reflect and in fact overstates the expenses associated with Verizon's future investment in each asset class.

[30] Technically, the numerator consists of Verizon's embedded 1999 costs, minus certain retail expenses and a 5% reduction in copper repair costs, adjusted to 2001 levels through a productivity factor derived from labor productivity gains in Verizon's embedded network and an inflation factor.

Contrary to Verizon's claims, applying the FLC factor is not necessary to "restore a 'twice-TELRICed' cost to one that recognizes TELRIC only once." Verizon Cost Brief at 66-69. This is so because the numerator in Verizon's ACF is *not* forward-looking. No matter how many times Verizon calls it that, the fact remains that the numerator represents nothing but Verizon's embedded 1999 costs, minus certain retail expenses and a 5% reduction in copper repair costs, adjusted to 2001 levels through a productivity factor derived from labor productivity gains in Verizon's embedded network and an offsetting labor cost inflation factor. Since the expenses are not forward-looking in the first place, they are not "double TELRICed" when Verizon applies its ACF factor. There is thus no need to apply a FLC factor (or anything else) in order to bring them to a single TELRIC level.

In reality, the FLC factor has nothing to do with TELRIC. *See* AT&T/WCOM Cost Br. at 115-116 (explaining how Verizon applied its FLC factor to the expense to investment ratio). The only thing that happens when Verizon applies its FLC factor is that the embedded network expenses that Verizon inputs into the numerator of the ACF become magically transformed into Verizon's claimed TELRIC expenses. *Id.*; WCOM Ex. 105; Tr. 3777-79, 3781 (Minion) (agreeing that it is "absolutely correct" that the expense put in the numerator of the equation is what comes out of the equation). This is not TELRIC, but sleight of hand.

b. Y2K Expenses

Verizon's argument that it should be entitled to recover its 1999 Y2K expenses because Verizon "did not augment its usual IS budget with Y2K expenses in 1999" but "simply allocated a portion of its defined IS budget for 1999 to Y2K projects" is empty sophistry. *See* Verizon Cost Brief at 75. Whether "augmented" or "allocated," the Y2K expenses were a one-time expenditure that will not occur annually in a forward-looking network, Tr. 3827 (Minion),